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NOTES ON THE ANT, *LEPTOTHORAX OBLIQUICANTHUS* COLE (Hymenoptera: Formicidae)

BY ROBERT E. GREGG

Department of Biology, University of Colorado

A new species of *Leptothorax* was described recently from New Mexico (Cole, 1953), together with some memoranda concerning the distribution of the genus in that state. For some years the writer has been collecting the ants of the neighboring state of Colorado, and in the course of these investigations discovered what appeared to be an entirely distinct form of *Leptothorax*. This ant was confirmed as new by Dr. Creighton, and I was in the process of drawing up a description and the figure of a specimen when Dr. Cole's paper was published. Upon comparing his description with my ants, it is certain that we are both dealing with the same form. Three paratypes were sent to me, and when compared with my specimens prove to be almost identical. The only differences worthy of note are that the Colorado specimens have slight rugulations on the ventral borders of the epinotum (absent in the types), the dorsal petiolar notch is absent, and the ventral petiolar spinule is only weakly developed. Dr. Cole's name for the species obviously has priority over the one about to have been proposed, but since the figure was already finished, and since the ant is so distinctive for the genus *Leptothorax*, it is thought advisable to publish it herewith.

As Dr. Cole points out, the ant differs from the closely related members of the *tricarinatus-texanus* complex, and particularly from *L. t. neomexicanus* in its shorter scapes, larger epinotal spines, and differently shaped petiole, etc. By far the most unusual feature, however, is the pair of huge, subreniform compound eyes, composed of

160 to 180 facets. Dr. Cole makes careful note of the existence of this anatomical character, but unfortunately failed to use it in deriving the specific name.

In his subgeneric allocation of *obliquicanthus*, Cole was constrained to follow the recent changes in the taxonomy of *Leptothorax* proposed by Smith (1950), in which the subgenus *Leptothorax* was replaced by the name *Myrafant*. According to this treatment, Cole designated his new species, *Leptothorax (Myrafant) obliquicanthus*. But the advisability of Dr. Smith's revision is open to question, and the problem has been discussed at length in an article by Creighton and Gregg submitted to the International Commission on Zoological Nomenclature. In this paper we have taken the position that the changes advocated by Smith will result in endless confusion, not only because of the long established concepts concerning the genus as a whole, but because of the necessity of redefining the characters of the subgenus *Leptothorax*. Before 1950 one group of species with a certain set of traits would belong in the subgenus *Leptothorax*, and after 1950 an entirely different set of species with a different set of characters would be known in the same subgenus. A more incongruous situation could hardly be imagined. We have attempted to rectify the condition by asking the Commission to set aside the Rules and adopt certain names as "nomina conservanda", namely, to retain the taxonomy of *Leptothorax* essentially as it was left by Emery.

Pending the action of the Commission, and until a definite decision is reached by that body, the writer believes unnecessary confusion can be avoided through adherence to the older nomenclature. Such a procedure is not without precedent and would appear to be the much sounder course to follow. Therefore, the treatment which should be given to the recently described species calls for a restitution of the subgeneric name *Leptothorax*, thus:

LEPTOTHORAX (LEPTOTHORAX) OBLIQUICANTHUS Cole

The specimens of *obliquicanthus* which I collected came from Higbee, Colorado, in the southeast part of the state, twenty miles south of La Junta. They were obtained from two general habitat types, semi-moist meadow near the Purgatoire River, and high dry, short grass plains above the river valley. The approximate elevations of these sites are 4400 ft. and 4500 ft. respectively. Dr. Cole's specimens were taken twelve miles south of Santa Fe, New Mexico, in a

grassy area. Though the species is now known to exist over a fairly wide territory, much collecting will be required to learn the precise nature of its range.

The unusual size, position, and form of the eyes in *obliquicanthus* raises the question of their possible function and adaptive value. Dr. Creighton (1930, p. 121), in discussing a similar phenomenon in *Solenopsis* (*E.*) *macrops* Santschi, points to Santschi's observation that convergent adaptation may be involved. In *Oxyopomyrmex*, according

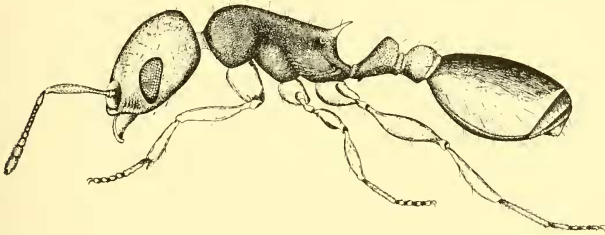


Figure 1. *Leptothorax obliquicanthus* Cole, worker. Drawn from a specimen collected by the writer at Higbee, Colorado.

to Santschi, the workers stop at the entrance of the nest before going out, in such a position that their large, elongate eyes are able to scan the surroundings. It may not be too much to suggest that the oversized eyes of these three forms represent analagous developments, and that their functions are connected with diurnal habits in open areas.

LITERATURE CITED

- COLE, A. C. 1953. Notes on the genus *Leptothorax* in New Mexico and a description of a new species. *Proc. Ent. Soc. Washington*, **55**: 27-30.
- CREIGHTON, W. S. 1930. The New World species of the genus *Solenopsis*. *Proc. Amer. Acad. Arts Sci.*, **66**: 39-151.
- CREIGHTON, W. S. and R. E. GREGG, 1953. An appeal to the International Commission on Zoological Nomenclature for the conservation of certain generic and subgeneric names of ants. MS.
- SMITH, M. R. 1950. On the status of *Leptothorax* Mayr and some of its subgenera. *Psyche*, **57**: 29-30.